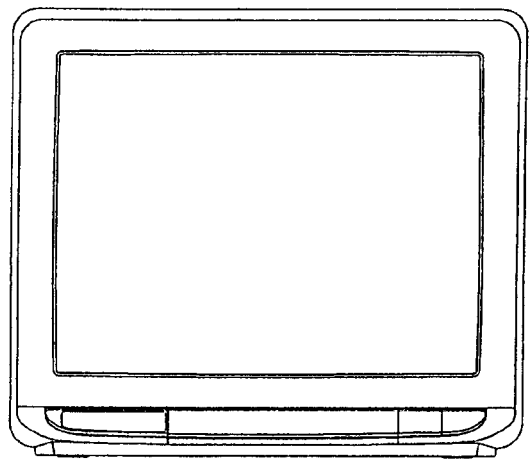
AMSTRAD CTV2114

MODEL

SERVICE MANUAL

SERVICE MANUAL

21" COLOUR TELEVISION



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SPECIFICATIONS

Item	Content
Dimensions	510mm(W)×445mm(H)×469.5mm(D)
Mass	20kg (TV set only)
TV System	PAL B / G
Teletext System	FLOF
Channel Coverage	
VHF (Low)	E2 ~ E4, SS1 ~ SS3, S1 ~ S6
VHF (High)	E5 ~ E12, S7 ~ S41
UHF	21 ~ 69
Frequency Range	
VHF (Low)	48.25MHz ~ 112.25MHz
VHF (High)	119.25MHz ~ 294.25MHz
UHF	471.25MHz ~ 855.25MHz
Intermediate Frequency	
Video	38.9MHz
Sound	33.4MHz
Chroma	34.47MHz
Video/Sound Separation	5.5MHz
Antenna Input Impedance	75Ω unbalanced
Power Input	230V AC, 50Hz
Power Consumption	90W
Picture Tube	21" (53.5cm) diagonal
High Voltage	≤28kV(at zero beam current)
Speaker	5cm×9cm (8Ω)
Audio Output	2W (max.)
AV Connection	21 pin scart socket

Design & specification subject to change without notice.

SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.

2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.

3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠)on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.

4. **Don't short between the LIVE side ground and ISOLATED(NEUTRAL) side ground or EARTH side ground when repairing.** Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED(NEUTRAL) : (⏚) side GND and EARTH : (⏚) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.
If above note will not be kept, a fuse or any parts will be broken.

5. If any repair has been made to the chassis, it is recommended that the B + setting should be checked or adjusted (See B + ADJUSTMENT).

6. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.

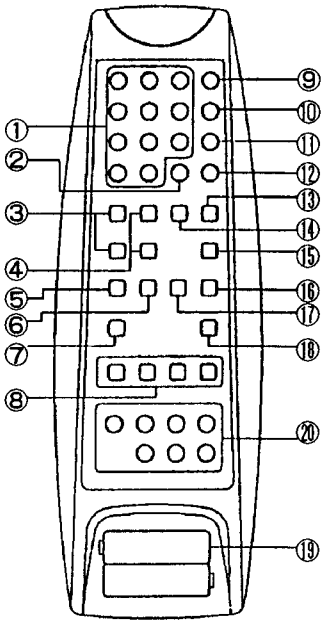
7. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.

8. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

SPECIFIC SERVICE INSTRUCTIONS

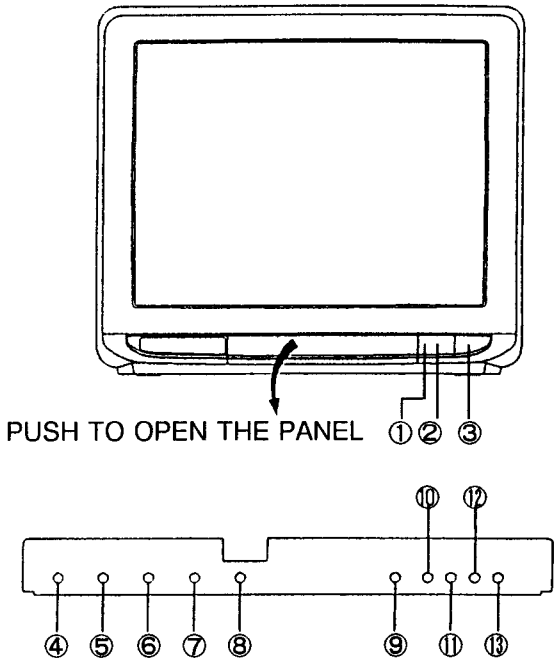
■ CONTROL LOCATION

1. Number Buttons (1~9, 0, 10+)
2. Normal Button
3. Program Up/Down Buttons (TV Mode), Page Up/Down Buttons (Teletext Mode)
4. Volume and Picture Function Up/Down Buttons (TV Mode), LIST / FLOF Buttons (Teletext Mode)
5. Hold Button
6. Subpage Button
7. Mix Button
8. Colour Buttons (Red, Green, Yellow, Cyan)
9. Stand By Button
10. Sleep Button
11. Recall Button
12. Mute Button
13. TV/AV Button
14. Picture Selector Button
15. TV/Teletext Button / 18. Index Button
16. Expand Button / 19. Battery Compartment
17. Reveal Button / 20. VCR Control Selection



■ CONTROL LOCATION

1. Remote Sensor
2. Power Indicator
3. Power Switch (ON / OFF)
4. TV / AV Button
5. Memory Button
6. Tuning / Down Button
7. Tuning Up Button
8. Auto search Button
9. Picture Selector Button
10. Volume / Picture control Down Button
11. Volume / Picture control Up Button
12. Program / Down Button
13. Program Up Button
14. Antenna Input Socket (Tuner)
15. 21 Pin Socket



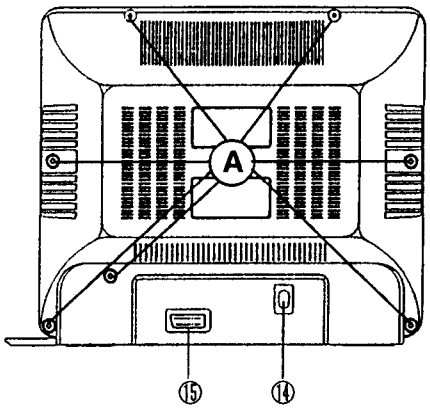
■ DISASSEBLY PROCEDURE

Note : Before starting work,disconnect the power plug from the outlet.

HOW TO REMOVE THE REAR COVER

1.Remove the 7 screws marked Ⓐ.

2.Remove the rear cover backward.



SERVICE ADJUSTMENTS

■ PREASE READ BEFORE ATTEMPTING SERVICE

1. Never disconnect any leads while receiver is in operation.
2. Disconnect all power before attempting any repairs.
3. Do not short any portion of the circuit while power is on.
4. For safety reasons, all parts replaced should be identical, (for parts and part numbers see parts list).
5. Before alignment the set must be pre-heated for 30 minutes or more and erase magnetism thoroughly from CRT front chassis frame by erase coil.

■ TEST EQUIPMENTS

1. Pattern generator
2. Oscilloscope
3. Digital multi meter
4. Demagnetizing coil
5. Philips pattern generator
6. Frequency counter

■ ADJUSTMENTS PROCEDURES

B + ADJUSTMENT

1. Connect the digital volt meter to TP-901.
2. Adjust semi-fixed resistor VR901 until meter reading DC 107V.

HORIZONTAL CIRCUIT ADJUSTMENT

1. Receive colour bar or crosshatch pattern.
2. IC301 (Pin ⑱ , ⑳) short by 1K Ohm resistor.
3. Adjust VR302 to obtain the picture running at center.
4. Remove the 1K Ohm resistor.
5. Adjust VR301 to change the horizontal of the pattern for center.

COLOUR DEMODULATOR ADJUSTMENT, DELAY LINE ADJUSTMENT

1. Receive Philips Pattern.
2. Set Contrast control to minimum position.
3. Set Colour control to maximum position.
4. Connect Oscilloscope to TP301(B-out).
5. Adjust CT301 to obtain the waveform as in Fig.1.
6. Adjust VR305 to obtain the waveform as in Fig.1.
7. Adjust T301 to obtain the waveform as in Fig.1.

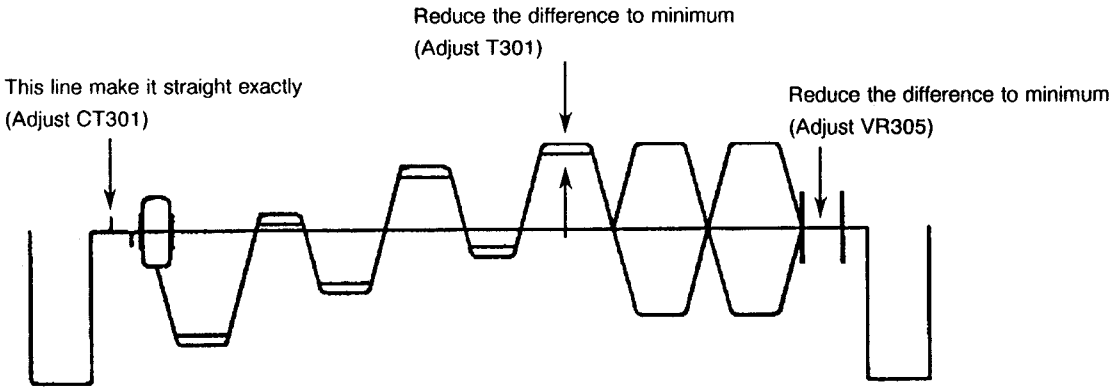


Fig.1

VERTICAL CIRCUIT ADJUSTMENT

1. Receive the crosshatch pattern.
2. Connect the Frequency Counter between V-DEFLECTION YOKE connector and GND.
3. Connect the lead wire from TP106 to GND.
4. Adjust V-HOLD (VR303) to the reading 45Hz ±0.5Hz.
5. Remove the lead wire from TP106 to GND.
6. Adjust V-SIZE (VR401) control to obtain a normal picture.

WHITE BALANCE ADJUSTMENT

1. Receive a black and white picture signal.
2. Turn the red, green and blue CUT OFF (VR501, VR502, VR503) controls (in the CRT PW Board) to middle position and turn the DRIVE (VR504,VR505) controls (in the CRT PW Board) to middle position.
3. Turn the Screen control on the FBT to minimum position.
4. Set the SUB-BRIGHTNESS control (VR304) to middle position, then set the Contrast, Brightness and Colour control to minimum position.
5. Connect volt meter between Q505 emitter and GND, and adjust Sub-Brightness control to the reading of DC1.4V.
6. Set the service switch (S401) to SERVICE position.
7. Slowly turn the Screen control clockwise to the point where a horizontal line just illuminates.
8. Adjust VR501 to get a red horizontal line on CRT.
9. Adjust VR502 to get a yellow horizontal line on CRT.
10. Adjust VR503 to get a white horizontal line on CRT.
11. Reset the service switch (S401) to NORMAL position and turn Brightness control to middle position.
12. Adjust DRIVE (VR504, VR505) controls to obtain a uniform white picture.

FOCUS ADJUSTMENT

1. Set Contrast control to maximum position and Brightness control to middle position.
2. Adjust Focus control (on the FBT) to obtain a sharpest and clearest picture on the CRT.

RF AGC ADJUSTMENT

1. Receive a broadcast.
2. Turn the RF AGC VR (VR101) so that noise appears on the screen.
3. Turn the RF AGC VR (VR101) until the noise disappears.
4. Change the channel and check that the picture is normal.

SUB-BRIGHTNESS ADJUSTMENT

- Check the white balance is adjusted.

1. Receive an entirely black signal.
2. Adjust the SUB-BRIGHTNESS VR (VR304) until the entirely picture lights.

ON SCREEN POSITION ADJUSTMENT

1. Receive the crosshatch pattern.
2. Display the on-screen character. Adjust the ON-SCREEN (VR601) so that the on-screen position becomes center.

TELETEXT PICTURE ADJUSTMENT

1. Receive a pattern with teletext signal.
2. Select a teletext page.
3. Connect an oscilloscope to IC801 Pin ③ and GND.
4. Connect an oscilloscope to TP801 (IC801 Pin ②) and GND.
5. Without the RF signal.
6. Adjust T801 to obtain the TV horizontal sync. , exactoy same as teletext sync. as shown in Fig.2.

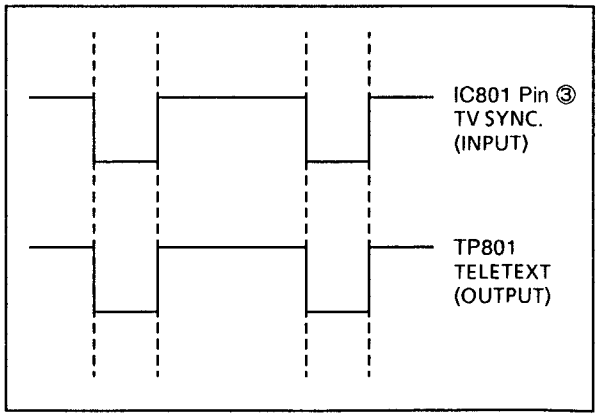


Fig.2

PARTS LIST

CAUTION

- The parts identified by the ⚠ symbol are important for the safety . Whenever replacing these parts, be sure to use specified ones to secure the safety .
- The parts not indicated in this Parts List and those which are filled with lines —— in the Parts No. columns will not be supplied .
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied .

ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
V R	Variable Resistor	E CAP.	Electrolytic Capacitor
		M CAP.	Mylar Capacitor
		TAN. CAP.	Tantalum Capacitor

TOLERANCES									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% - 10%	+50% - 10%	+80% - 20%	+100% - 0%

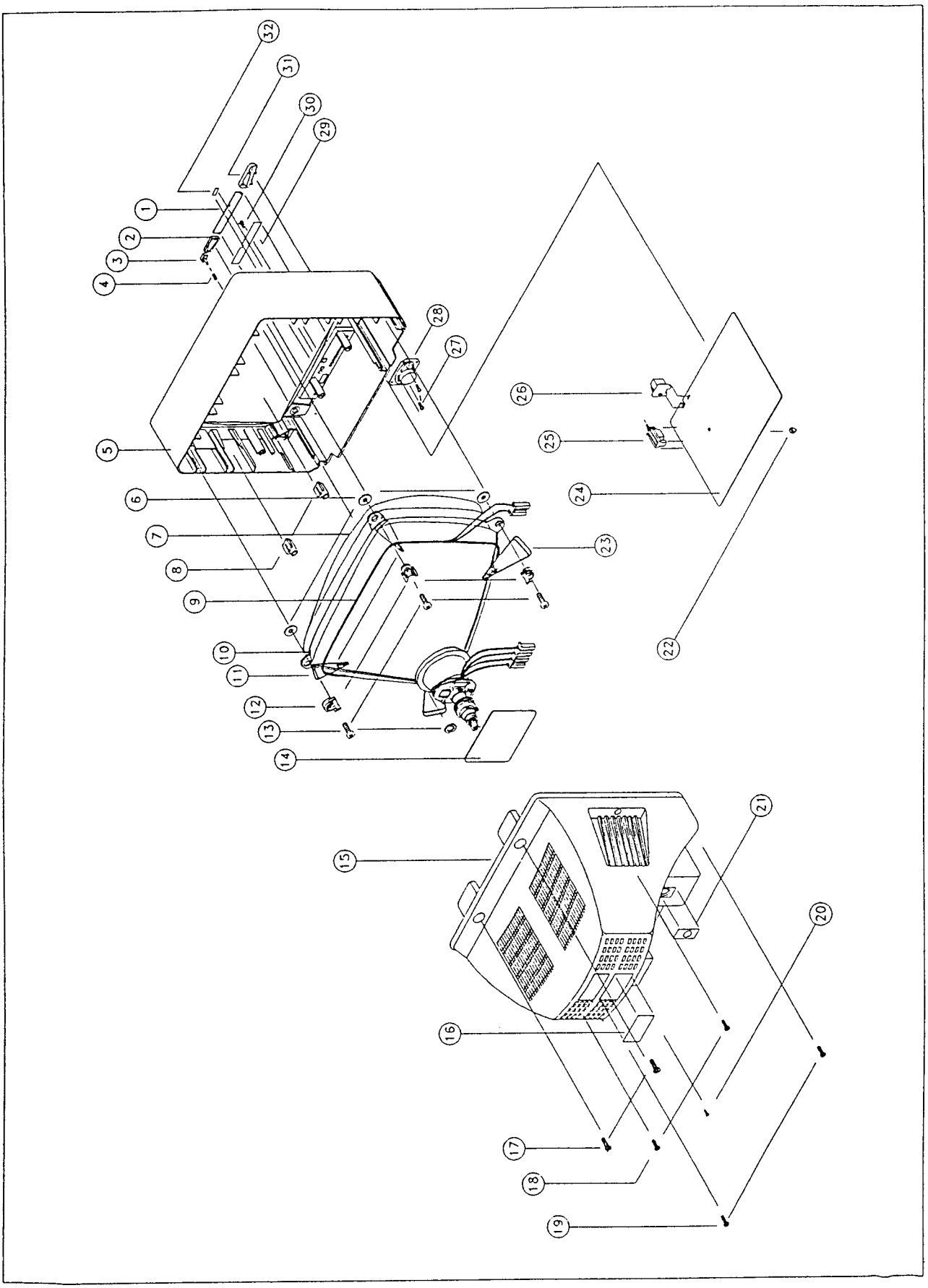
■ EXPLODED VIEW PARTS LIST

⚠	REF. No.	PARTS No.	PARTS NAME	REMARKS
	1	219-862101-03S	PANEL DOOR	
	2	263-862101-01S	FRONT LENS	
	3	292-862101-01S	POWER KNOB	
	4	477-682101-01	COMPRESSION SPRING	
	5	200-862101-01R	FRONT CABINET	
	6	334-371601-01	RUBBER RING	(x4) T = 2mm
⚠	7	102-321001-16	C.R.T. (ITC) (SAMSUNG)	A51KQK63X05
	8	229-862101-01	MOUNTING BRACKET	(x2)
⚠	9	108-890214-02	DEGAUSSING COIL ASS'Y	L905
	10	072-830000-48	FLAT BRAIDED WIRE	
	11	259-911501-01	DEGAUSSING COIL CLIP	(x2)
	12	229-832101-01	C.R.T. MOUNTING CLIP	(x4)
	13	614-500238-10	SELF-TAPPING SCREW	(x4) B/T 5x38mm
	14	————	CRT SOCKET PW BOARD ASS'Y	
	15	202-862101-01B	BACK CABINET	
	16	412-862101-04	MODEL PLATE	
	17	614-400420-10	SELF-TAPPING SCREW	(x2) B/T 4x20mm
	18	614-500425-00	SELF-TAPPING SCREW	(x2) B/T 5x25mm
	19	614-400420-10	SELF-TAPPING SCREW	(x2) B/T 4x20mm
	20	614-400412-00	SELF-TAPPING SCREW	B/T 4x12mm
	21	418-922043-01	TUNER COVER	
	22	259-922101-01	PCB SUPPORTER	
	23	259-922002-01	DEGAUSSING COIL CLIP	(x2)
	24	————	MAIN PW BOARD ASS'Y	
⚠	25	046-100001-14A	POWER SWITCH	S901
	26	————	RECEIVE PW BOARD ASS'Y	
	27	614-400412-00	SELF-TAPPING SCREW	(x2) B/T 4x12mm
	28	066-983023-09	SPEAKER	
	29	418-862102-01	PRESET OVERLAY	
	30	702-391201-02	DOOR LOCKER ASS'Y	
	31	403-862101-01	SPEAKER GRILLE	
	32	286-862101-01S	NAME PLATE	
⚠		071-090100-30	AC CORD	

■ REMOTE HANDSET UNIT (790-001006-01)

⚠	REF. No.	PARTS No.	PARTS NAME	REMARKS
		210-001001-01	BATTERY COVER	

■ EXPLODED VIEW



PRINTED WIRING BOARD PART LIST

MAIN PW BOARD ASS'Y

VARIABLE RESISTOR

⚠ SYMBL	PART NO	PART NAME	DESCRIPTION	
VR101	112-103541-06	V R(RF AGC)	10KΩ	B
VR301	112-204541-06	V R(H. CENTRE)	200KΩ	B
VR302	112-502541-06	V R(H. FREQ)	5KΩ	B
VR303	112-103541-06	V R(V. HOLD)	10KΩ	B
VR304	112-204541-06	V R(SUB-BRIGHT)	200KΩ	B
VR305	112-102542-06	V R(DL AMP)	1KΩ	B
VR401	112-501541-06	V R(V-SIZE)	500Ω	B
VR601	112-502531-08	V R(OSD)	5KΩ	B
VR901	112-102542-06	V R(B+ ADJUST)	1KΩ	B

RESISTOR

⚠ SYMBL	PART NO	PART NAME	DESCRIPTION	
R101	013-820005-12H	C R	82Ω	1/16W 5%
R102	013-331005-12H	C R	330Ω	1/16W 5%
R103	013-221005-12H	C R	220Ω	1/16W 5%
R104	013-562005-12H	C R	5.6KΩ	1/16W 5%
R105	013-221005-12H	C R	220Ω	1/16W 5%
R106	013-122005-12H	C R	1.2KΩ	1/16W 5%
R107	013-270005-12H	C R	27Ω	1/16W 5%
R108	013-154005-12H	C R	150KΩ	1/16W 5%
R110	013-303005-12H	C R	30KΩ	1/16W 5%
R112	013-562005-12H	C R	5.6KΩ	1/16W 5%
R113	013-152005-12H	C R	1.5KΩ	1/16W 5%
R114	013-473005-12H	C R	47KΩ	1/16W 5%
R115	013-470205-12	C R	47Ω	1/2W 5%
R116	013-562005-12H	C R	5.6KΩ	1/16W 5%
R117	013-471005-12H	C R	470Ω	1/16W 5%
R118	013-222005-12H	C R	2.2KΩ	1/16W 5%
R119	013-331005-12H	C R	330Ω	1/16W 5%
R120	013-102005-12H	C R	1KΩ	1/16W 5%
R121	013-222005-12H	C R	2.2KΩ	1/16W 5%
R122	013-103005-12H	C R	10KΩ	1/16W 5%
R123	013-823005-12H	C R	82KΩ	1/16W 5%
R124	013-229105-12H	C R	2.2Ω	1/4W 5%
R201	013-109105-12H	C R	1Ω	1/4W 5%
R202	013-392005-12H	C R	3.9KΩ	1/16W 5%
R203	013-681005-12H	C R	680Ω	1/16W 5%
R204	013-392005-12H	C R	3.9KΩ	1/16W 5%
R205	013-222005-12H	C R	2.2KΩ	1/16W 5%
R206	013-123005-12H	C R	12KΩ	1/16W 5%
R207	013-222005-12H	C R	2.2KΩ	1/16W 5%
R208	013-123005-12H	C R	12KΩ	1/16W 5%
R209	013-271005-12H	C R	270Ω	1/16W 5%
R210	013-569105-12	C R	5.6Ω	1/4W 5%
R211	013-101005-12H	C R	100Ω	1/16W 5%
R212	013-103005-12H	C R	10KΩ	1/16W 5%
R214	013-103005-12H	C R	10KΩ	1/16W 5%
R215	013-562005-12H	C R	5.6KΩ	1/16W 5%
R216	013-104005-12H	C R	100KΩ	1/16W 5%
R218	013-223005-12H	C R	22KΩ	1/16W 5%
R219	013-102005-12H	C R	1KΩ	1/16W 5%
R220	013-103005-12H	C R	10KΩ	1/16W 5%
R221	013-682005-12H	C R	6.8KΩ	1/16W 5%
R222	013-750105-12H	C R	75Ω	1/4W 5%
R223	013-221005-12H	C R	220Ω	1/16W 5%
R224	013-221005-12H	C R	220Ω	1/16W 5%
R225	013-750105-12H	C R	75Ω	1/4W 5%
R226	013-750105-12H	C R	75Ω	1/4W 5%
R227	013-750105-12H	C R	75Ω	1/4W 5%
R228	013-101005-12H	C R	100Ω	1/16W 5%
R229	013-750105-12H	C R	75Ω	1/4W 5%
R230	013-102005-12H	C R	1KΩ	1/16W 5%
R232	013-101005-12H	C R	100Ω	1/16W 5%
R233	013-101005-12H	C R	100Ω	1/16W 5%
R234	013-101005-12H	C R	100Ω	1/16W 5%
R302	013-471005-12H	C R	470Ω	1/16W 5%
R303	013-751005-12H	C R	750Ω	1/16W 5%
R304	013-102005-12H	C R	1KΩ	1/16W 5%
R305	013-103005-12H	C R	10KΩ	1/16W 5%
R306	013-222005-12H	C R	2.2KΩ	1/16W 5%
R307	013-103005-12H	C R	10KΩ	1/16W 5%
R308	013-222005-12H	C R	2.2KΩ	1/16W 5%
R309	013-102005-12H	C R	1KΩ	1/16W 5%
R310	013-273005-12H	C R	27KΩ	1/16W 5%
R311	013-823005-12H	C R	82KΩ	1/16W 5%
R312	013-102005-12H	C R	1KΩ	1/16W 5%
R313	013-273005-12H	C R	27KΩ	1/16W 5%
R314	013-473005-12H	C R	47KΩ	1/16W 5%
R315	013-333005-12H	C R	33KΩ	1/16W 5%
R316	013-104205-12	C R	100KΩ	1/2W 5%
⚠ R317	013-822605-75	FIXED METAL OXIDE FILM R	8.2KΩ	5W 5%
R318	013-473005-12H	C R	47KΩ	1/16W 5%
R319	013-103005-12H	C R	10KΩ	1/16W 5%
R320	013-392005-12H	C R	3.9KΩ	1/16W 5%
R321	013-333005-12H	C R	33KΩ	1/16W 5%
R322	013-392005-12H	C R	3.9KΩ	1/16W 5%
R323	013-183005-12H	C R	18KΩ	1/16W 5%
R324	013-332005-12H	C R	3.3KΩ	1/16W 5%
R325	013-473005-12H	C R	47KΩ	1/16W 5%
R326	013-822005-12H	C R	8.2KΩ	1/16W 5%
R327	013-184005-12H	C R	180KΩ	1/16W 5%
R328	013-123005-12H	C R	12KΩ	1/16W 5%
R329	013-331005-12H	C R	330Ω	1/16W 5%
R330	013-331005-12H	C R	330Ω	1/16W 5%
R331	013-823005-12H	C R	82KΩ	1/16W 5%
R332	013-331005-12H	C R	330Ω	1/16W 5%
R333	013-180105-12	C R	18Ω	1/4W 5%
R334	013-332005-12H	C R	3.3KΩ	1/16W 5%
R335	013-332005-12H	C R	3.3KΩ	1/16W 5%
R336	013-101005-12H	C R	100Ω	1/16W 5%
R337	013-101005-12H	C R	100Ω	1/16W 5%
R338	013-101005-12H	C R	100Ω	1/16W 5%
R339	013-391005-12H	C R	390Ω	1/16W 5%
R340	013-391005-12H	C R	390Ω	1/16W 5%
R341	013-391005-12H	C R	390Ω	1/16W 5%

⚠ SYMBL	PART NO	PART NAME	DESCRIPTION
R342	013-122005-12H	C R	1.2KΩ 1/16W 5%
R343	013-471005-12H	C R	470Ω 1/16W 5%
R344	013-471005-12H	C R	470Ω 1/16W 5%
R345	013-185005-12	C R	1.8MΩ 1/16W 5%
R346	013-101005-12H	C R	100Ω 1/16W 5%
R347	013-332005-12H	C R	3.3KΩ 1/16W 5%
R348	013-103005-12H	C R	10KΩ 1/16W 5%
R349	013-103005-12H	C R	10KΩ 1/16W 5%
R350	013-391005-12H	C R	390Ω 1/16W 5%
R351	013-332005-12H	C R	3.3KΩ 1/16W 5%
R352	013-102005-12H	C R	1KΩ 1/16W 5%
R353	013-103101-72	FIXED METAL OXIDE FILM R	10KΩ 1/4W F
R354	013-103101-72	FIXED METAL OXIDE FILM R	10KΩ 1/4W F
R355	013-683005-12H	C R	68KΩ 1/16W 5%
R356	013-682005-12H	C R	6.8KΩ 1/16W 5%
R357	013-271305-75	FIXED METAL OXIDE FILM R	270Ω 1W 5%
R360	013-332005-12H	C R	3.3KΩ 1/16W 5%
R364	013-473005-12	C R	47KΩ 1/16W 5%
R402	013-562105-12H	C R	5.6KΩ 1/4W 5%
R403	013-102005-12H	C R	1KΩ 1/16W 5%
R404	013-392005-12H	C R	3.9KΩ 1/16W 5%
R405	013-223005-12H	C R	22KΩ 1/16W 5%
R406	013-103005-12H	C R	10KΩ 1/16W 5%
⚠ R407	013-471205-22	FLAME PROOF CAR FILM R	470Ω 1/2W 5%
R408	013-151105-12H	C R	150Ω 1/4W 5%
R409	013-101005-12H	C R	100Ω 1/16W 5%
⚠ R411	013-229305-82	FLAME PROOF FUSING R	2.2Ω 1W 5%
⚠ R412	013-681405-75	FIXED METAL OXIDE RES	680Ω 2W 5%
R413	013-223105-12H	C R	22KΩ 1/4W 5%
R414	013-471005-12H	C R	470Ω 1/16W 5%
R415	013-221005-12H	C R	220Ω 1/16W 5%
⚠ R416	013-272205-22	FLAME PROOF CAR FILM R	2.7KΩ 1/2W 5%
⚠ R417	013-332605-75	FIXED METAL OXIDE FILM R	3.3KΩ 5W 5%
R418	013-220205-12	C R	22Ω 1/2W 5%
⚠ R419	013-569505-76	FIXED METAL OXIDE FILM R	5.6Ω 3W 5%
⚠ R420	013-103405-75	FIXED METAL OXIDE FILM R	10KΩ 2W 5%
⚠ R421	013-688310-82	FLAME PROOF FUSING R	0.68Ω 1W 10%
⚠ R422	013-688310-82	FLAME PROOF FUSING R	0.68Ω 1W 10%
⚠ R423	013-129405-82	FLAME PROOF FUSING R	1.2Ω 2W 5%
R424	013-103005-12H	C R	10KΩ 1/16W 5%
R601	013-100105-12H	C R	10Ω 1/4W 5%
R602	013-102005-12H	C R	1KΩ 1/16W 5%
R603	013-473005-12H	C R	47KΩ 1/16W 5%
R604	013-473005-12H	C R	47KΩ 1/16W 5%
R605	013-473005-12H	C R	47KΩ 1/16W 5%
R606	013-473005-12H	C R	47KΩ 1/16W 5%
R607	013-473005-12H	C R	47KΩ 1/16W 5%
R608	013-473005-12H	C R	47KΩ 1/16W 5%
R609	013-473005-12H	C R	47KΩ 1/16W 5%
R610	013-103005-12H	C R	10KΩ 1/16W 5%
R611	013-473005-12H	C R	47KΩ 1/16W 5%
R612	013-103005-12H	C R	10KΩ 1/16W 5%
R613	013-103005-12H	C R	10KΩ 1/16W 5%
R614	013-104005-12H	C R	100KΩ 1/16W 5%
R615	013-102005-12H	C R	1KΩ 1/16W 5%
R616	013-105005-12H	C R	1MΩ 1/16W 5%
R617	013-472005-12H	C R	4.7KΩ 1/16W 5%

⚠ SYMBL	PART NO	PART NAME	DESCRIPTION
R618	013-104005-12H	C R	100KΩ 1/16W 5%
R619	013-104005-12H	C R	100KΩ 1/16W 5%
R620	013-473005-12H	C R	47KΩ 1/16W 5%
R621	013-103005-12H	C R	10KΩ 1/16W 5%
R622	013-103005-12H	C R	10KΩ 1/16W 5%
R623	013-473005-12H	C R	47KΩ 1/16W 5%
R624	013-223005-12H	C R	22KΩ 1/16W 5%
R625	013-103005-12H	C R	10KΩ 1/16W 5%
R626	013-562005-12H	C R	5.6KΩ 1/16W 5%
R627	013-562005-12H	C R	5.6KΩ 1/16W 5%
R631	013-104005-12H	C R	100KΩ 1/16W 5%
R632	013-102005-12H	C R	1KΩ 1/16W 5%
R633	013-222005-12H	C R	2.2KΩ 1/16W 5%
R634	013-103005-12H	C R	10KΩ 1/16W 5%
R635	013-223005-12H	C R	22KΩ 1/16W 5%
R636	013-333005-12H	C R	33KΩ 1/16W 5%
R637	013-223105-12H	C R	22KΩ 1/4W 5%
R638	013-332005-12H	C R	3.3KΩ 1/16W 5%
R639	013-473005-12H	C R	47KΩ 1/16W 5%
R640	013-182005-12H	C R	1.8KΩ 1/16W 5%
R643	013-103005-12H	C R	10KΩ 1/16W 5%
R644	013-103005-12H	C R	10KΩ 1/16W 5%
R645	013-473005-12H	C R	47KΩ 1/16W 5%
R646	013-473005-12H	C R	47KΩ 1/16W 5%
R647	013-563005-12H	C R	56KΩ 1/16W 5%
R648	013-682005-12H	C R	6.8KΩ 1/16W 5%
R649	013-273005-12H	C R	27KΩ 1/16W 5%
R650	013-103405-75	FIXED METAL OXIDE FILM R	10KΩ 2W 5%
R651	013-472005-12H	C R	4.7KΩ 1/16W 5%
R652	013-472005-12H	C R	4.7KΩ 1/16W 5%
R653	013-563005-12H	C R	56KΩ 1/16W 5%
R654	013-563005-12H	C R	56KΩ 1/16W 5%
R655	013-102205-12	C R	1KΩ 1/2W 5%
R656	013-332005-12H	C R	3.3KΩ 1/16W 5%
R657	013-104005-12H	C R	100KΩ 1/16W 5%
R658	013-102005-12H	C R	1KΩ 1/16W 5%
R659	013-681005-12H	C R	680Ω 1/16W 5%
R660	013-681005-12H	C R	680Ω 1/16W 5%
R662	013-222005-12H	C R	2.2KΩ 1/16W 5%
R663	013-472005-12H	C R	4.7KΩ 1/16W 5%
R664	013-563005-12H	C R	56KΩ 1/16W 5%
R665	013-392005-12H	C R	3.9KΩ 1/16W 5%
R666	013-103005-12H	C R	10KΩ 1/16W 5%
R667	013-103005-12H	C R	10KΩ 1/16W 5%
R668	013-103005-12H	C R	10KΩ 1/16W 5%
R669	013-103005-12H	C R	10KΩ 1/16W 5%
R670	013-103005-12H	C R	10KΩ 1/16W 5%
R671	013-103005-12H	C R	10KΩ 1/16W 5%
R672	013-103005-12H	C R	10KΩ 1/16W 5%
R673	013-103005-12H	C R	10KΩ 1/16W 5%
R674	013-221005-12H	C R	220Ω 1/16W 5%
R675	013-120405-75	FIXED METAL OXIDE FILM R	12Ω 2W 5%
R676	013-561005-12H	C R	560Ω 1/16W 5%
R677	013-561005-12H	C R	560Ω 1/16W 5%
R678	013-103105-12H	C R	10KΩ 1/4W 5%
R679	013-263101-72	FIXED METAL OXIDE FILM R	26KΩ 1/4W 1%
R680	013-274101-72	FIXED METAL OXIDE FILM R	270KΩ 1/4W 1%

⚠ SYMBL	PART NO	PART NAME	DESCRIPTION		
R681	013-152005-12H	C R	1.5KΩ	1/16W	5%
R682	013-332005-12H	C R	3.3KΩ	1/16W	5%
R683	013-333005-12H	C R	33KΩ	1/16W	5%
R684	013-332005-12H	C R	3.3KΩ	1/16W	5%
R685	013-471105-12H	C R	470Ω	1/4W	5%
R687	013-101105-12H	C R	100Ω	1/4W	5%
R688	013-682005-12H	C R	6.8KΩ	1/16W	5%
R801	013-562005-12H	C R	5.6KΩ	1/16W	5%
R802	013-562005-12H	C R	5.6KΩ	1/16W	5%
R803	013-562005-12H	C R	5.6KΩ	1/16W	5%
R804	013-562005-12H	C R	5.6KΩ	1/16W	5%
R805	013-471005-12H	C R	470Ω	1/16W	5%
R806	013-471005-12H	C R	470Ω	1/16W	5%
R807	013-471005-12H	C R	470Ω	1/16W	5%
R808	013-821005-12H	C R	820Ω	1/16W	5%
R809	013-821005-12H	C R	820Ω	1/16W	5%
R810	013-821005-12H	C R	820Ω	1/16W	5%
R811	013-821005-12H	C R	820Ω	1/16W	5%
R812	013-272005-12H	C R	2.7KΩ	1/16W	5%
R813	013-272005-12H	C R	2.7KΩ	1/16W	5%
R814	013-272005-12H	C R	2.7KΩ	1/16W	5%
R815	013-681005-12H	C R	680Ω	1/16W	5%
R816	013-273005-12H	C R	27KΩ	1/16W	5%
R817	013-273005-12H	C R	27KΩ	1/16W	5%
R818	013-273005-12H	C R	27KΩ	1/16W	5%
R819	013-273005-12H	C R	27KΩ	1/16W	5%
R820	013-103005-12H	C R	10KΩ	1/16W	5%
R821	013-822005-12H	C R	8.2KΩ	1/16W	5%
R822	013-103005-12H	C R	10KΩ	1/16W	5%
R823	013-333005-12H	C R	33KΩ	1/16W	5%
R824	013-154005-12H	C R	150KΩ	1/16W	5%
R825	013-683005-12H	C R	68KΩ	1/16W	5%
R826	013-333005-12H	C R	33KΩ	1/16W	5%
R827	013-104005-12H	C R	100KΩ	1/16W	5%
R828	013-682005-12H	C R	6.8KΩ	1/16W	5%
R829	013-103005-12H	C R	10KΩ	1/16W	5%
R830	013-102005-12H	C R	1KΩ	1/16W	5%
R831	013-100005-12H	C R	10Ω	1/16W	5%
R832	013-102005-12H	C R	1KΩ	1/16W	5%
R833	013-473005-12H	C R	47KΩ	1/16W	5%
R834	013-473005-12H	C R	47KΩ	1/16W	5%
R835	013-101005-12H	C R	100Ω	1/16W	5%
R836	013-332005-12H	C R	3.3KΩ	1/16W	5%
R837	013-561105-12H	C R	560Ω	1/4W	5%
R839	013-270305-75	FIXED METAL OXIDE FILM R	27Ω	1W	5%
⚠ R901	013-479605-54	CEMENT RES	4.7Ω	5W	5%
⚠ R902	013-229405-75	FIXED METAL OXIDE FILM R	2.2Ω	2W	5%
R903	013-332105-12H	C R	3.3KΩ	1/4W	5%
R904	013-682105-12H	C R	6.8KΩ	1/4W	5%
R905	013-822105-12H	C R	8.2KΩ	1/4W	5%
R906	013-182105-12H	C R	1.8KΩ	1/4W	5%
R907	013-103105-12H	C R	10KΩ	1/4W	5%
R908	013-682105-12H	C R	6.8KΩ	1/4W	5%
R909	013-331105-12H	C R	330Ω	1/4W	5%
R910	013-472105-12H	C R	4.7KΩ	1/4W	5%
⚠ R911	013-120305-75	FIXED METAL OXIDE FILM R	12Ω	1W	5%

⚠ SYMBL	PART NO	PART NAME	DESCRIPTION		
⚠ R912	013-270405-75	FIXED METAL OXIDE FILM R	27Ω	2W	5%
⚠ R913	013-334305-75	FIXED METAL OXIDE FILM R	330KΩ	1W	J
⚠ R914	013-338405-82	FLAME PROOF FUSING R	0.33Ω	2W	J
⚠ R915	013-390805-75	FIXED METAL OXIDE FILM R	39Ω	7W	5%
⚠ R916	013-825305-92	HIGH VOLTAGE R	8.2MΩ	1W	5%
⚠ R917	013-688310-82	FLAME PROOF FUSING R	0.68Ω	1W	10%
⚠ R918	013-688205-82	FLAME PROOF FUSING R	0.68Ω	1/2W	5%
⚠ R919	013-120405-75	FIXED METAL OXIDE FILM R	12Ω	2W	5%
⚠ R920	013-154205-22	FLAME PROOF CAR FILM RES	150KΩ	1/2W	5%
R921	013-101205-12	C R	100Ω	1/2W	5%
⚠ R922	013-100405-75	FIXED METAL OXIDE FILM R	10Ω	2W	5%

CAPACITOR

C101	127-225077-01V	E CAP.	2.2μF	50V	20%
C102	123-103370-30V	C CAP.	0.01μF	50V	Z
C103	123-103370-30V	C CAP	0.01μF	50V	Z
C104	123-103370-30V	C CAP	0.01μF	50V	Z
C105	127-475057-01V	E CAP.	4.7μF	25V	20%
C106	123-103370-30V	C CAP	0.01μF	50V	Z
C107	026-273111-01V	M CAP.	0.027μF	100V	10%
C108	127-105077-21V	NON-POLARIZED E CAP.	1μF	50V	20%
C109	127-225077-01V	E CAP.	2.2μF	50V	20%
C110	026-682111-01V	M CAP.	0.0068μF	100V	10%
C111	123-070300-13V	C CAP.	7pF	50V	
C112	123-103370-30V	C CAP.	0.01μF	50V	Z
C113	123-103370-30V	C CAP.	0.01μF	50V	Z
C114	127-225077-01V	E CAP.	2.2μF	50V	20%
C115	127-107047-01V	E CAP.	100μF	16V	20%
C116	123-103370-30V	C CAP.	0.01μF	50V	Z
C117	123-020300-13V	C CAP.	2pF	50V	
C118	123-360350-10	C CAP.	36pF	50V	10%
C119	123-103370-30V	C CAP.	0.01μF	50V	Z
C120	123-470350-10V	C CAP.	47pF	50V	10%
C121	123-103370-30V	C CAP.	0.01μF	50V	Z
C122	127-105077-01V	E CAP.	1μF	50V	20%
C123	127-105077-21V	NON-POLARIZED E CAP.	1μF	50V	20%
C124	123-103370-30V	C CAP.	0.01μF	50V	Z
C125	127-107047-01V	E CAP.	100μF	16V	20%
C126	127-476047-01V	E CAP.	47μF	16V	20%
C127	127-476047-01V	E CAP.	47μF	16V	20%
C128	123-103370-30V	C CAP.	0.01μF	50V	Z
C130	123-102370-30	C CAP.	0.001μF	50V	Z
C201	026-474111-01	M CAP.	0.47μF	100V	10%
C202	127-227047-01V	E CAP.	220μF	16V	20%
C203	127-476057-01V	E CAP.	47μF	25V	20%
C204	127-225077-01V	E CAP.	2.2μF	50V	20%
C205	127-475057-01V	E CAP.	4.7μF	25V	20%
C206	026-472111-01V	M CAP.	0.0047μF	100V	10%
C207	127-106047-01V	E CAP.	10μF	16V	20%
C208	127-105077-21V	NON-POLARIZED E CAP.	1μF	50V	20%
C209	127-106047-01V	E CAP.	10μF	16V	20%
C210	026-102111-01V	M CAP.	0.001μF	100V	10%
C211	127-107047-01V	E CAP.	100μF	16V	20%
C212	123-102370-30V	C CAP.	0.001μF	50V	Z
C213	123-104270-30V	C CAP.	0.1μF	25V	Z
C214	127-226047-01V	E CAP.	22μF	16V	20%

⚠ SYMBL	PART NO	PART NAME	DESCRIPTION		
C215	127-105077-21V	NON-POLARIZED E CAP.	1μF	50V	20%
C216	127-106047-01V	E CAP.	10μF	16V	20%
C217	127-106047-01V	E CAP.	10μF	16V	20%
C218	026-474111-01	M CAP.	0.47μF	100V	10%
C219	127-477057-01	E CAP.	470μF	25V	20%
C220	026-103111-01V	M CAP.	0.01μF	100V	10%
C221	127-224077-01V	E CAP.	0.22μF	50V	20%
C301	123-270350-10V	C CAP.	27pF	50V	10%
C302	123-220350-10V	C CAP.	22pF	50V	10%
C303	123-103370-30V	C CAP.	0.01μF	50V	Z
C304	123-101340-13V	C CAP.	100pF	50V	5%
C305	127-475057-01V	E CAP.	4.7μF	25V	20%
C306	123-103370-30V	C CAP.	0.01μF	50V	Z
C307	127-106047-21V	NON-POLARIZED E CAP.	10μF	16V	20%
C308	127-335077-21V	NON POLARIZED E CAP.	3.3μF	50V	20%
C309	127-106047-01V	E CAP.	10μF	16V	20%
C310	127-228047-01	E CAP.	2200μF	16V	20%
C311	026-103071-11V	POLY FILM CAP.	0.01μF	50V	10%
C312	026-103071-11V	POLY FILM CAP.	0.01μF	50V	10%
C313	026-562071-11V	POLY FILM CAP.	0.0056μF	50V	10%
C314	127-475057-01V	E CAP.	4.7μF	25V	20%
C315	127-105077-01V	E CAP.	1μF	50V	20%
C316	123-181350-10V	C CAP.	180pF	50V	10%
C317	026-103071-11V	POLY FILM CAP.	0.01μF	50V	10%
C318	124-335051-01V	TAN CAP.	3.3μF	25V	10%
C319	123-103370-30V	C CAP.	0.01μF	50V	Z
C320	124-105061-01V	TAN CAP.	1μF	35V	10%
C321	127-475057-01V	E CAP.	4.7μF	25V	20%
C322	127-108047-01	E CAP.	1000μF	16V	20%
C323	127-338047-01	E CAP.	3300μF	16V	20%
C324	127-335077-01V	E CAP.	3.3μF	50V	20%
C325	127-105077-01V	E CAP.	1μF	50V	20%
C326	127-335077-01V	E CAP.	3.3μF	50V	20%
C327	127-335077-01V	E CAP.	3.3μF	50V	20%
C328	127-335077-01V	E CAP.	3.3μF	50V	20%
C329	127-227047-01V	E CAP.	220μF	16V	20%
C330	127-105077-01V	E CAP.	1μF	50V	20%
C331	127-105077-01V	E CAP.	1μF	50V	20%
C332	127-476047-01V	E CAP.	47μF	16V	20%
C333	123-470340-13V	C CAP.	47pF	50V	5%
C334	124-474061-01V	TAN CAP.	0.47μF	35V	10%
C335	123-221350-10V	C CAP.	220pF	50V	10%
C336	123-221350-10V	C CAP.	220pF	50V	10%
C337	127-107047-01V	E CAP.	100μF	16V	20%
C338	026-104061-71	METALLIZED POLYESTER FILM CAP.	0.1μF	63V	K
C339	026-104061-71	METALLIZED POLYESTER FILM CAP.	0.1μF	63V	K
C340	127-105077-21V	NON-POLARIZED E CAP.	1μF	50V	20%
C341	123-103370-30V	C CAP.	0.01μF	50V	Z
C342	123-103370-30V	C CAP.	0.01μF	50V	Z
C344	127-477047-01	E CAP.	470μF	16V	20%
C345	123-500350-10V	C CAP.	50pF	50V	10%
C346	026-222071-11V	POLY FILM CAP.	0.0022μF	50V	10%
C347	123-101350-10	C CAP.	100pF	50V	10%
C402	127-227057-01V	E CAP.	220μF	25V	20%
C403	127-107067-01V	E CAP.	100μF	35V	20%
C404	123-102370-30V	C CAP.	0.001μF	50V	Z
C405	127-108067-01	E CAP.	1000μF	35V	20%

⚠ SYMBL	PART NO	PART NAME	DESCRIPTION		
C406	026-122071-11V	POLY FILM CAP.	0.0012μF	50V	10%
C407	026-223071-11V	POLY FILM CAP.	0.022μF	50V	10%
C408	026-104111-01	M CAP.	0.1μF	100V	10%
C409	026-222111-01V	M CAP.	0.0022μF	100V	10%
C410	124-106041-01V	TAN CAP.	10μF	16V	10%
C411	124-225051-01V	TAN CAP.	2.2μF	25V	10%
C412	026-273071-11V	POLYF ILM CAP.	0.027μF	50V	10%
C413	127-108057-01	E CAP.	1000μF	25V	20%
C414	026-474200-31	POLYPROPYLENE CAP.	0.47μF	200V	5%
C415	127-105135-01	E CAP.	1μF	160V	H
C416	123-821350-10V	C CAP.	820pF	50V	10%
C417	026-102111-01V	M CAP.	0.001μF	100V	10%
⚠ C418	123-222580-42V	C CAP.	0.0022μF	500V	P
⚠ C419	026-473201-31	POLYPROPYLENE CAP.	0.047μF	200V	10%
⚠ C420	123-272840-40	C CAP.	0.0027μF	2KV	5%
⚠ C421	026-222160-41	METALLIZED POLYPROPYLENE CAP.	0.0022μF	1600V	5%
C422	127-227047-01V	E CAP.	220μF	16V	20%
⚠ C423	127-108047-01	E CAP.	1000μF	16V	20%
C424	123-122550-40V	C CAP.	1200pF	500V	10%
C425	123-122550-40V	C CAP.	1200pF	500V	10%
⚠ C426	127-106215-81	E CAP.	10μF	250V	M
⚠ C427	123-122550-40	C CAP.	1200pF	500V	10%
C428	123-222840-40	C CAP.	0.0022μF	2KV	5%
C429	026-473201-31	POLYPROPYLENE CAP.	0.047μF	200V	10%
⚠ C430	026-563201-31	POLYPROPYLENE CAP.	0.56μF	200V	10%
C431	127-227067-01	E CAP.	220μF	35V	20%
C506	127-335215-01	E CAP.	3.3μF	250V	M
C601	127-226047-01V	E CAP.	22μF	16V	20%
C602	123-102370-30V	C CAP.	0.001μF	50V	Z
C603	123-300340-13V	C CAP.	30pF	50V	5%
C604	123-104270-30V	C CAP.	0.1μF	25V	Z
C605	123-471350-10V	C CAP.	470pF	50V	10%
C606	123-103370-30V	C CAP	0.01μF	50V	Z
C607	123-561350-10V	C CAP.	560pF	50V	10%
C608	127-106047-01V	E CAP.	10μF	16V	20%
C609	127-475057-01V	E CAP.	4.7μF	25V	20%
C610	026-224111-01	M CAP.	0.22μF	100V	10%
C611	026-154111-01	M CAP.	0.15μF	100V	10%
C612	127-106077-01V	E CAP.	10μF	50V	20%
C614	127-225077-01V	E CAP.	2.2μF	50V	20%
C616	123-300340-13	C CAP.	30pF	50V	5%
C617	123-300340-13	C CAP.	30pF	50V	5%
C618	127-335077-01V	E CAP.	3.3μF	50V	20%
C619	127-105077-01V	E CAP.	1μF	50V	20%
C620	127-105077-01V	E CAP.	1μF	50V	20%
C621	127-105077-01V	E CAP.	1μF	50V	20%
C622	026-104061-71	METALLIZED POLYESTER FILM CAP.	0.1μF	63V	K
C623	127-474077-01V	E CAP.	0.47μF	50V	20%
C630	123-103370-30V	C CAP	0.01μF	50V	Z
C631	127-475057-01V	E CAP.	4.7μF	25V	20%
C632	123-103370-30V	C CAP	0.01μF	50V	Z
C633	123-102370-30V	C CAP.	0.001μF	50V	Z
C635	127-476047-01V	E CAP.	47μF	16V	20%
C636	127-106047-01V	E CAP.	10μF	16V	20%
⚠ C637	127-107135-81	E CAP.	100μF	160V	H
C638	127-225077-01V	E CAP.	2.2μF	50V	20%
C639	123-104270-30V	C CAP.	0.1μF	25V	Z

⚠ SYMBL	PART NO	PART NAME	DESCRIPTION
C640	123-561350-10V	C CAP.	560pF 50V 10%
C641	127-476047-01V	E CAP.	47μF 16V 20%
C642	123-103370-30V	C CAP	0.01μF 50V Z
C643	127-476047-01V	E CAP.	47μF 16V 20%
C644	127-107047-01V	E CAP.	100μF 16V 20%
C645	123-103370-30V	C CAP	0.01μF 50V Z
C647	123-104270-30V	C CAP.	0.1μF 25V Z
C649	123-104270-30V	C CAP.	0.1μF 25V Z
C801	127-107047-01V	E CAP.	100μF 16V 20%
C802	123-103370-30V	C CAP.	0.01μF 50V Z
C803	127-476047-01V	E CAP.	47μF 16V 20%
C804	123-470340-13	C CAP.	47pF 50V 5%
C805	127-105077-01V	E CAP.	1μF 50V 20%
C806	123-820340-13V	C CAP.	82pF 50V 5%
C807	123-271340-10V	C CAP.	270pF 50V 5%
C808	123-100340-13V	C CAP.	10pF 50V 5%
C809	123-104270-30V	C CAP.	0.1μF 25V Z
C810	026-222111-01V	M CAP.	0.0022μF 100V 10%
C811	127-107047-01V	E CAP.	100μF 16V 20%
C812	123-104270-30V	C CAP.	0.1μF 25V Z
C813	123-103370-30V	C CAP	0.01μF 50V Z
C814	123-103370-30V	C CAP	0.01μF 50V Z
C815	123-221350-10V	C CAP.	220pF 50V 10%
C816	123-150340-13V	C CAP.	15pF 50V 5%
C817	123-150340-13V	C CAP.	15pF 50V 5%
C818	123-221350-10V	C CAP.	220pF 50V 10%
C819	123-104270-30V	C CAP.	0.1μF 25V Z
C820	127-106047-01V	E CAP.	10μF 16V 20%
⚠ C901	026-473212-41	METALLIZED POLY CAP.	0.047μF AC250V 20%
⚠ C902	026-474211-21C	MET. POLY. CAP.	0.47μF AC250V K
C903	026-474211-21C	MET. POLY. CAP.	0.47μF AC250V K
C904	123-472580-42V	C CAP.	0.0047μF 500V P
C905	123-472580-42V	C CAP.	0.0047μF 500V P
⚠ C906	127-107401-01	ELECT COND	100μF 400V 10%
C907	123-472580-42V	C CAP.	0.0047μF 500V P
C908	026-333111-01V	M CAP.	0.033μF 100V 10%
C909	127-476077-01V	E CAP.	47μF 50V 20%
C910	026-104111-01	M CAP.	0.1μF 100V 10%
C911	127-476077-01V	E CAP.	47μF 50V 20%
C912	123-222840-40	C CAP.	0.0022μF 2KV 5%
⚠ C913	123-222467-41	C CAP.	0.0022μF 400V M
⚠ C914	127-108057-01	E CAP.	1000μF 25V 20%
C916	123-681550-40V	C CAP.	680pF 500V 10%
⚠ C917	127-107135-81	E CAP.	100μF 160V H
C918	123-472580-42V	C CAP.	0.0047μF 500V P
C919	123-222580-42V	C CAP.	0.0022μF 500V P
C920	127-476057-01V	E CAP.	47μF 25V 20%
CT301	022-300101-03	TRIMMER CAP.	30pF

TRANSFORMER

T103	002-970000-02	IFT TV COIL	
T104	002-370000-02	TANK IFT COIL	
T105	002-370000-02	TANK IFT COIL	
T301	002-770004-03	CHROMA IFT COIL	
⚠ T401	101-220005-03A	FLYBACK TRANSFORMER (CF0341)	
T402	001-190010-96	HORI. DRIVE TRANSFORMER	
T801	002-970001-02	IFT TV COIL	
⚠ T901	001-419220-94	SWITCHING TRANSFORMER	

COIL

L101	105-150101-02V	FIXED INDUCTOR COIL	15μH
L102	105-100101-02V	FIXED INDUCTOR COIL	10μH
L103	105-100101-02V	FIXED INDUCTOR COIL	10μH
L105	105-568103-12	FIXED INDUCTOR COIL	0.56μH
L201	105-829101-02	FIXED INDUCTOR CLIL	8.2μH
L301	105-220101-06V	FIXED INCUCTOR COIL	22μH
L302	105-100101-02V	FIXED INDUCTOR COIL	10μH
L303	105-100101-02V	FIXED INDUCTOR COIL	10μH
L304	105-689101-02V	FIXED INDUCTOR COIL	6.8μH
L401	105-570101-01	FIXED INDUCTOR COIL	57μH
L801	105-181101-02	FIXED INDUCTOR COIL	180μH
⚠ L901	001-190013-95	CHOKE TRANSFORMER	
L904	105-161101-01	CHOKE COIL	160μH

DIODE

⚠ BR901	D2SBA	RECTIFIER	
CD801	IS2638	AFC DIODE	
D201	1N4148	SILICON DIODE	
D202	1N4148	SILICON DIODE	
D302	1N4148	SILICON DIODE	
D303	1N4148	SILICON DIODE	
D304	1N4148	SILICON DIODE	
D305	MA858	DIODE	
D306	MA858	DIODE	
D307	MA858	DIODE	
D313	1N4148	SILICON DIODE	
D401	S5295G	RECTIFIER DIODE	S5295J, BYT52K/J/G
D402	1N4148	SILICON DIODE	
D403	1N4148	SILICON DIODE	
D404	S5295G	RECTIFIER DIODE	S5295J, BYT52K/J/G
⚠ D405	S5295G	RECTIFIER DIODE	S5295J, BYT52K/J/G
⚠ D406	S5295G	RECTIFIER DIODE	S5295J, BYT52K/J/G
⚠ D407	S5295G	RECTIFIER DIODE	S5295J, BYT52K/J/G
D606	1N4148	SILICON DIODE	
D607	1N4148	SILICON DIODE	
D608	1N4148	SILICON DIODE	
D609	1N4148	SILICON DIODE	
D610	1N4148	SILICON DIODE	
D611	1N4148	SILICON DIODE	
D613	1N4148	SILICON DIODE	
D801	1N4148	SILICON DIODE	
D802	1N4148	SILICON DIODE	
D803	1N4148	SILICON DIODE	
⚠ D901	S5295G	RECTIFIER DIODE	S5295J, BYT52K/J/G
⚠ D902	S5295G	RECTIFIER DIODE	S5295J, BYT52K/J/G
⚠ D903	S5295G	RECTIFIER DIODE	S5295J, BYT52K/J/G
⚠ D904	S5295G	RECTIFIER DIODE	S5295J, BYT52K/J/G
⚠ D905	S5295G	RECTIFIER DIODE	S5295J, BYT52K/J/G
D906	1N4148	SILICON DIODE	
D908	1N4148	SILICON DIODE	
ZD101	MA1091-M	ZENER DIODE	9V1
ZD301	5V1	ZENER DIODE	

⚠ SYMBL	PART NO	PART NAME	DESCRIPTION
⚠ ZD401	MA2120	ZENER DIODE	12V
ZD601	KA33V	ZENER DIODE	
ZD602	3.9V	ZENER DIODE	
ZD603	5V6	ZENER DIODE	
ZD604	MA1091-M	ZENER DIODE	9V1
ZD605	3.9V	ZENER DIODE	
ZD801	5V6	ZENER DIODE	
ZD901	8V2	ZENER DIODE	
ZD902	MA1091-M	ZENER DIODE	9V1

TRANSISTOR

Q101	2SC388ATM	TRANSISTOR	
Q201	2SC1815-Y	TRANSISTOR	
Q202	2SC1815-Y	TRANSISTOR	
Q203	2SC1815-Y	TRANSISTOR	
Q204	2SC1815-Y	TRANSISTOR	
Q205	2SC1815-Y	TRANSISTOR	
Q206	2SC1815-Y	TRANSISTOR	
Q301	2SC1815-Y	TRANSISTOR	
Q302	2SC1815-Y	TRANSISTOR	
Q401	2SC2482	TRANSISTOR	
⚠ Q402	2SD1555(E)	TRANSISTOR	
Q601	2SA1015	TRANSISTOR	
Q602	2SC1815-Y	TRANSISTOR	
Q603	2SC1815-Y	TRANSISTOR	
Q604	2SC1815-Y	TRANSISTOR	
Q605	2SD400F	TRANSISTOR	
Q606	2SC1815-Y	TRANSISTOR	
Q608	BSX20	TRANSISTOR	
Q609	2SC1815-Y	TRANSISTOR	
Q613	2SC1815-Y	TRANSISTOR	
Q614	2SC1815-Y	TRANSISTOR	
Q615	2SC1815-Y	TRANSISTOR	
Q616	2SC1815-Y	TRANSISTOR	
Q617	2SC1815-Y	TRANSISTOR	
Q618	2SC1815-Y	TRANSISTOR	
Q619	2SD400F	TRANSISTOR	
Q620	2SC1815-Y	TRANSISTOR	
Q621	2SC1815-Y	TRANSISTOR	
Q801	2SC1815-Y	TRANSISTOR	
Q802	2SC1815-Y	TRANSISTOR	
Q803	2SC1815-Y	TRANSISTOR	
Q804	2SC1815-Y	TRANSISTOR	
Q805	2SC1815-Y	TRANSISTOR	
Q806	2SD400F	TRANSISTOR	
Q901	2SC1815-Y	TRANSISTOR	
⚠ Q902	2SB774(TA)	TRANSISTOR	
⚠ Q903	2SC1815-Y	TRANSISTOR	
⚠ Q904	2SD1545	TRANSISTOR	
Q905	2SD400F	TRANSISTOR	

IC

IC101	TA8701AN	IC
IC201	TDA1904	IC
IC202	HCF 4066BE	IC
IC301	AN5601K	IC

⚠ SYMBL	PART NO	PART NAME	DESCRIPTION
IC401	LA7830	IC	
IC601	C68230Y-N2B	IC	
IC602	XL93LC46AP	IC	
IC603	LA7910	IC	
IC801	CF70095A	IC	
IC802	CF72306	IC	

OTHERS

	103-161300-07	TUNER	
	250-932001-01	LED HOLDER	
	466-701201-01	FUSE HOLDER	
CF101	007-105500-16	TRAP FILTER	
CF102	007-305500-26	CERAMIC FILTER	
DL301	113-200001-00	DELAY LINE	
DL302	113-100001-01	DELAY LINE	
⚠ F901	082-223150-23	FUSE	3.15A
J201	061-680000-01	21 PIN SOCKET	
⚠ L902	001-190005-95	LINE FILTER	
RLY901	006-210012-12	RELAY	
S401	045-022411-11	SLIDE SWITCH	
S601	046-100001-39	TACT SWITCH	
S602	046-100001-39	TACT SWITCH	
S603	046-100001-39	TACT SWITCH	
S604	046-100001-39	TACT SWITCH	
S605	046-100001-39	TACT SWITCH	
S606	046-100001-39	TACT SWITCH	
S607	046-100001-39	TACT SWITCH	
S608	046-100001-39	TACT SWITCH	
S609	046-100001-39	TACT SWITCH	
S610	046-100001-39	TACT SWITCH	
⚠ S901	046-100001-14A	POWER SWITCH	
SA101	007-738900-39	SAW FILTER	
⚠ TH901	014-210200-01	P.T.C. THERMISTOR	
X301	037-886723-20F	CRYSTAL	
X601	CSA4.00MG	CERAMIC RESONATOR	
X801	037-138750-30F	CRYSTAL	

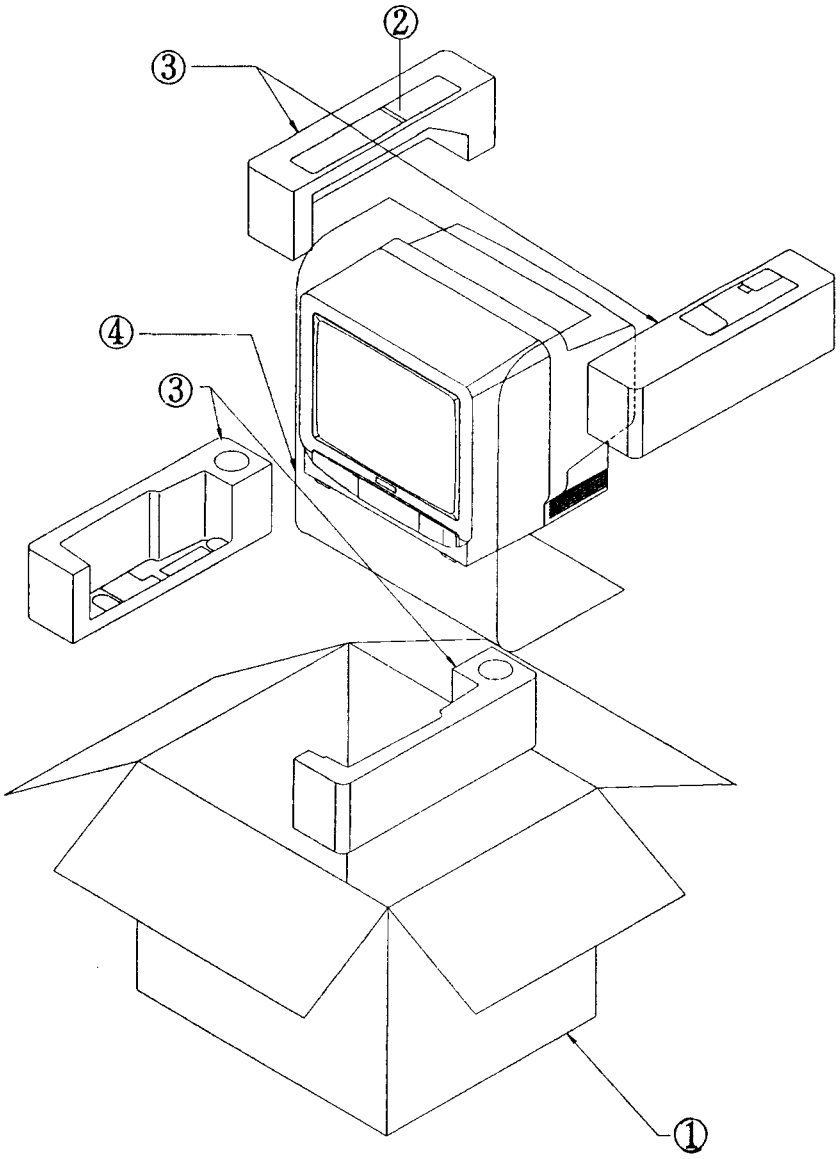
CRT SOCKET PWB BOARD ASS'Y

⚠ SYMBL	PART NO	PART NAME	DESCRIPTION		
VARIABLE RESISTOR					
VR501	112-502531-08	V R(R-CUT OFF)	5KΩ	B	
VR502	112-502531-08	V R(G-CUT OFF)	5KΩ	B	
VR503	112-502531-08	V R(B-CUT OFF)	5KΩ	B	
VR504	112-301531-08	V R(G-DRIVE)	300Ω	B	
VR505	112-301531-08	V R(B-DRIVE)	300Ω	B	
RESISTOR					
R505	013-471105-12	C R	470Ω	1/4W	5%
R506	013-202105-12	C R	2KΩ	1/4W	5%
R507	013-202105-12	C R	2KΩ	1/4W	5%
R508	013-202105-12	C R	2KΩ	1/4W	5%
R509	013-391105-12	C R	390Ω	1/4W	5%
R510	013-391105-12	C R	390Ω	1/4W	5%
⚠ R511	013-123405-75	FIXED METAL OXIDE FILM R	12KΩ	2W	5%
⚠ R512	013-123405-75	FIXED METAL OXIDE FILM R	12KΩ	2W	5%
⚠ R513	013-123405-75	FIXED METAL OXIDE FILM R	12KΩ	2W	5%
⚠ R514	013-272205-22	FLAME PROOF CAR FILM R	2.7KΩ	1/2W	5%
⚠ R515	013-272205-22	FLAME PROOF CAR FILM R	2.7KΩ	1/2W	5%
⚠ R516	013-272205-22	FLAME PROOF CAR FILM R	2.7KΩ	1/2W	5%
R517	013-152105-12	C R	1.5KΩ	1/4W	5%
R518	013-152105-12	C R	1.5KΩ	1/4W	5%
R519	013-152105-12	C R	1.5KΩ	1/4W	5%
CAPACITOR					
C502	123-331340-10	C CAP.	330pF	50V	5%
C503	123-331340-10	C CAP.	330pF	50V	5%
C504	123-271340-10	C CAP.	270pF	50V	5%
C505	123-562840-40	C CAP.	0.0056μF	2KV	10%
TRANSISTOR					
Q503	2SC2482	TRANSISTOR			
Q504	2SC2482	TRANSISTOR			
Q505	2SC2482	TRANSISTOR			
COIL					
L501	105-181101-02	FIXED INDUCTOR COIL	180μH		
OTHERS					
⚠	061-540015-01	CRT SOCKET			

RECEIVE PWB BOARD ASS'Y

⚠ SYMBL	PART NO	PART NAME	DESCRIPTION
DIODE			
LED601	SEL2110R	LED	
OTHERS			
OPT601	036-600781-00	INFRARED LIGHT DETECTING UNIT	

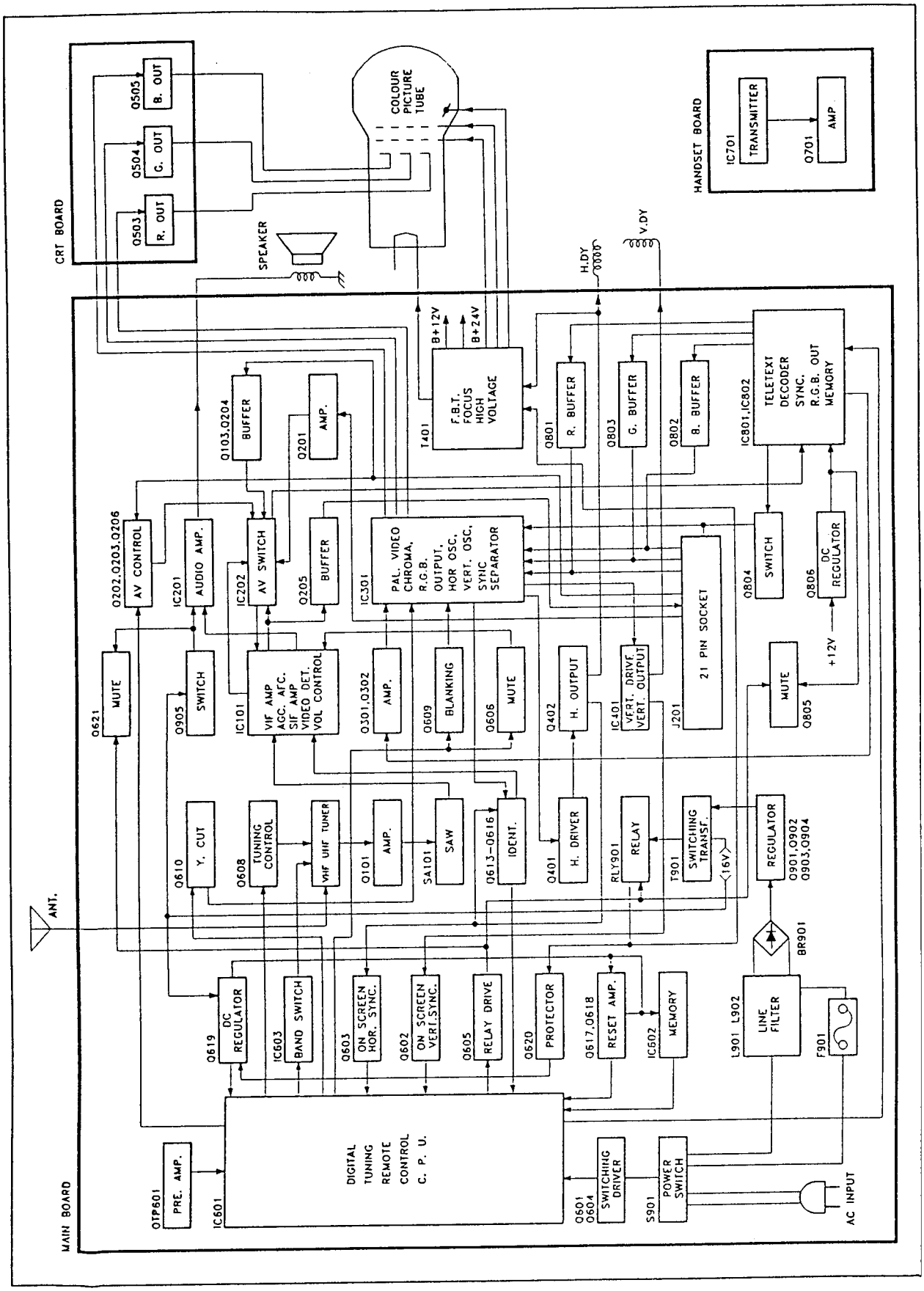
■ PACKING



■ PACKING PARTS LIST

⚠	REF. No.	PARTS No.	PARTS NAME	REMARKS
	1	511-001001-01	CARTON BOX	
	2	790-001006-01	REMOTE HANDSET UNIT	
	3	300-862101-02B	POLY FOAM	
	4	310-396005-40B	EXPANDED POLY. FOAM PAPER	
		310-111404-12B	POLY BAG	for INSTRUCTION BOOK
⚠		570-862103-015	INSTRUCTION BOOK	
		BT-20066A-E	ADDRESS CARD	
		BT-20135-E	WARRANTY CARD	(JDL)
		BT-20118-E	WARRANTY CARD	(JIT)

BLOCK DIAGRAM



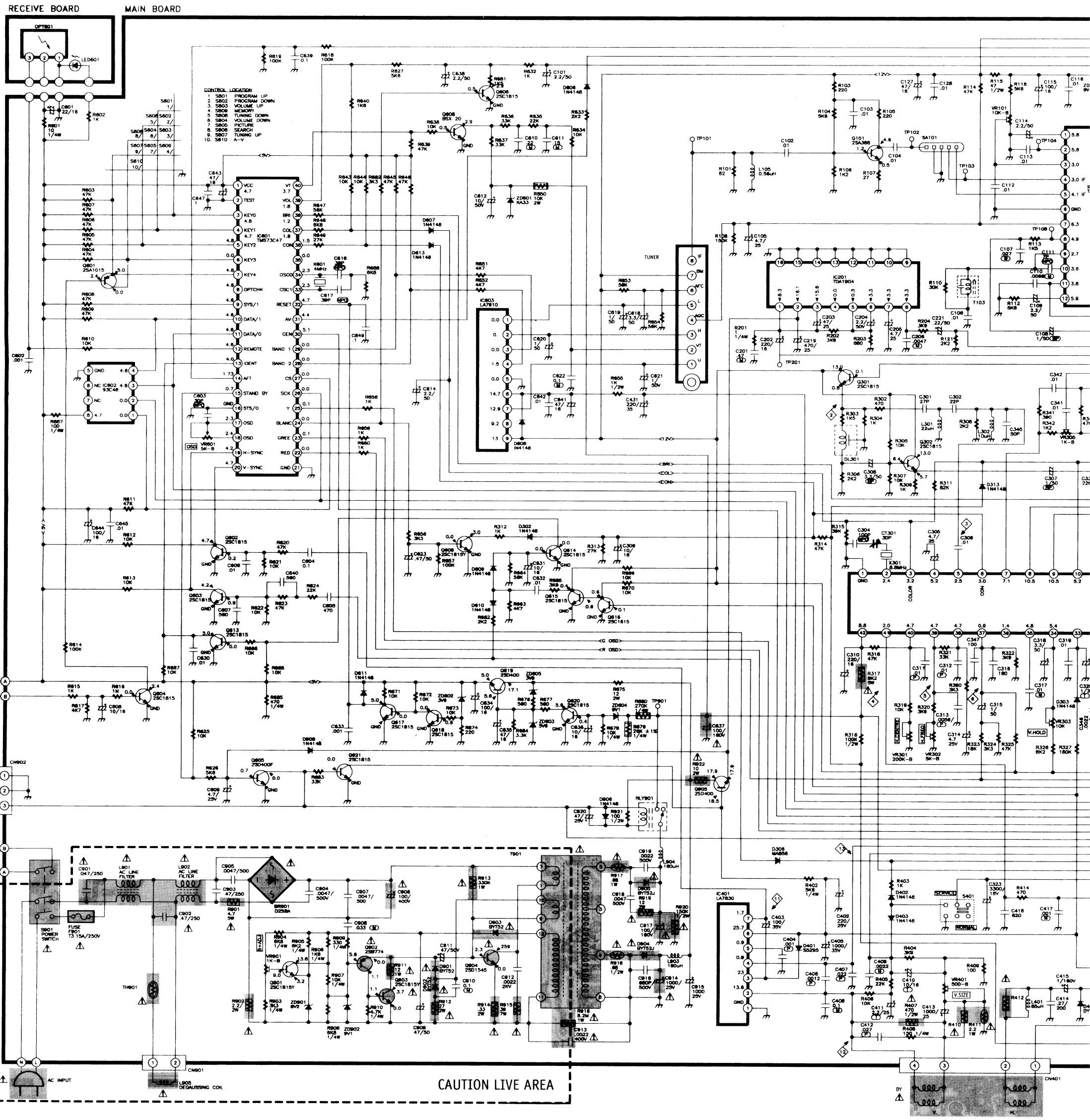
■ CIRCUIT DIAGRAM (MAIN)

■ NOTE ON USING CIRCUIT DIAGRA

1.SAFETY

The components identified by the ⚠ symbol and sha
For continued safety replace safety critical compone
recommended parts.

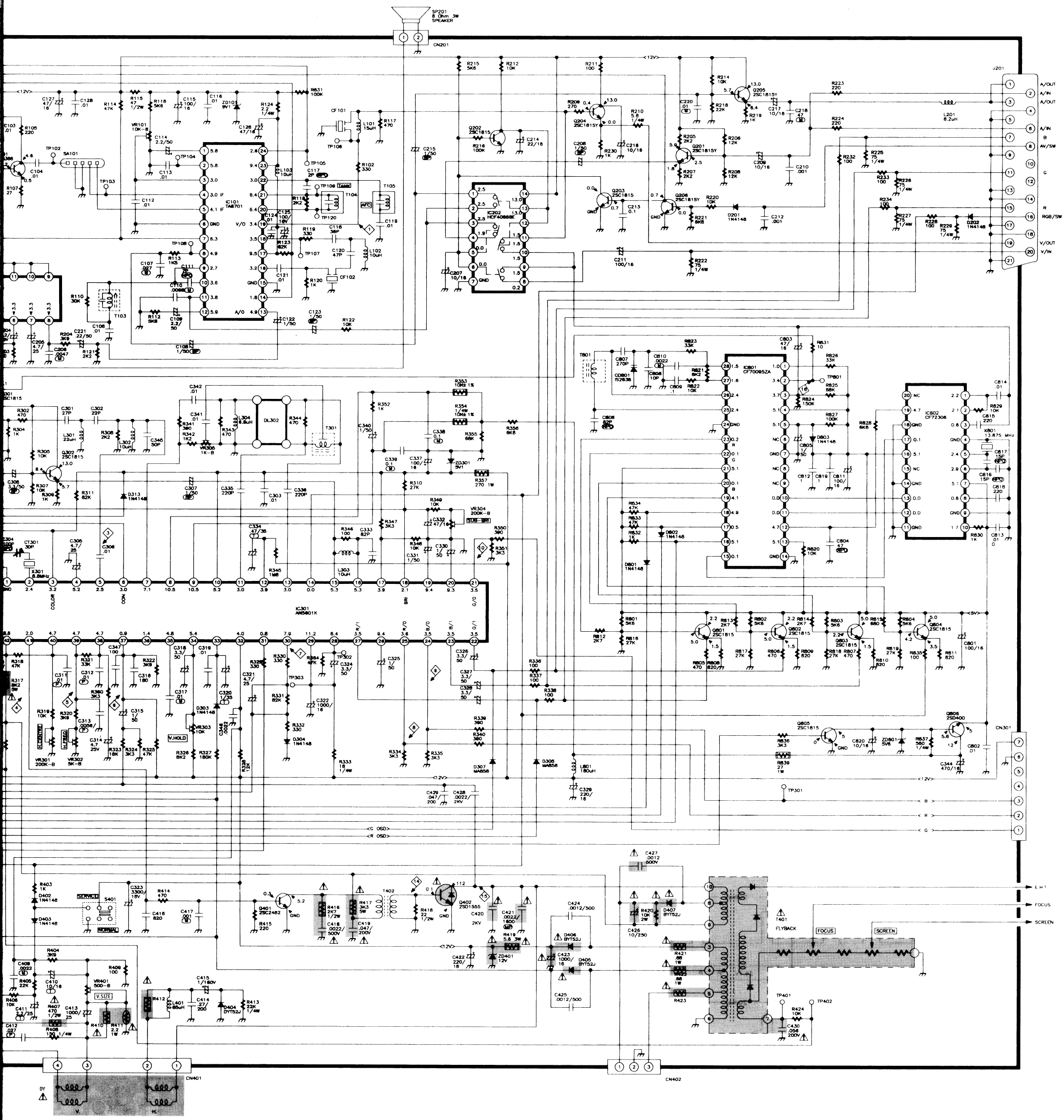
◇Since the circuit diagram is a standard one, the ci
may be subject to change for improvement without a



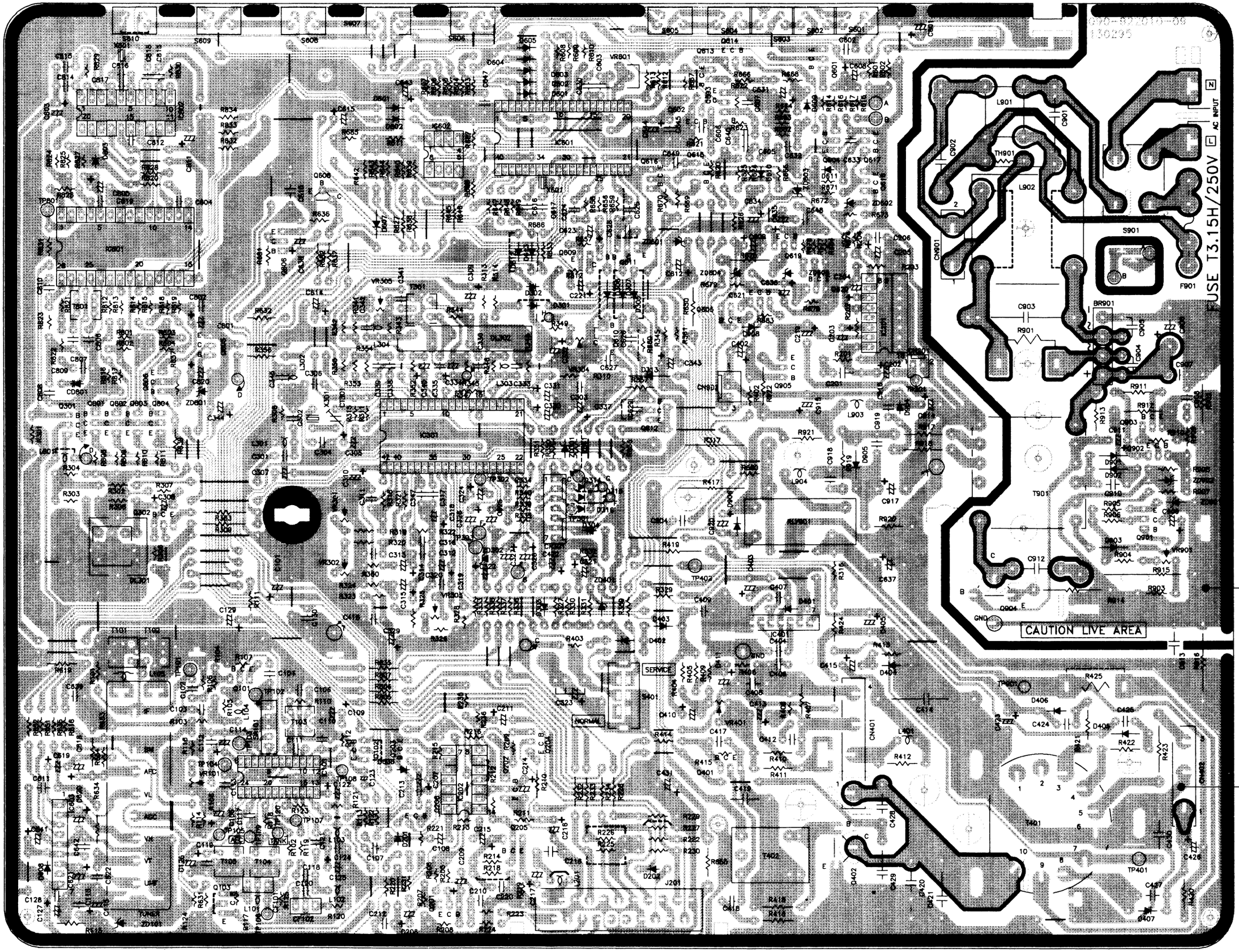
N USING CIRCUIT DIAGRAMS

ts identified by the ⚠ symbol and shading are critical for safety.
safety replace safety critical components only with manufactures
parts.
uit diagram is a standard one, the circuit and circuit constants
t to change for improvement without any notice.

C-21ET1E STANDARD CIRCUIT DIAGRAM

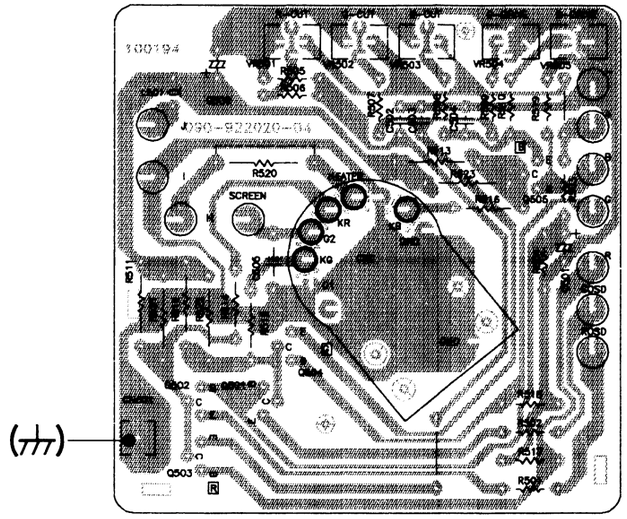


■ PATTERN DIAGRAM (MAIN PWB)



■ PATTERN DIAGRAM

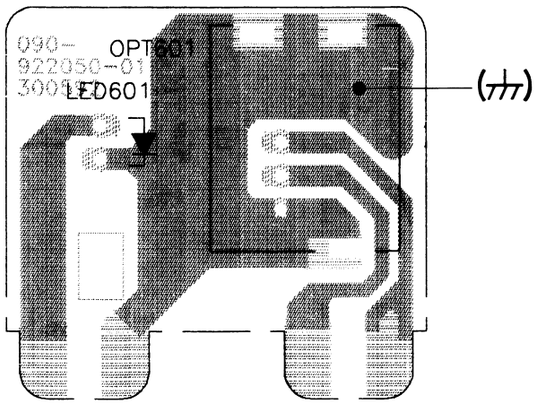
■ PATTERN DIAGRAM (CRT PWB)



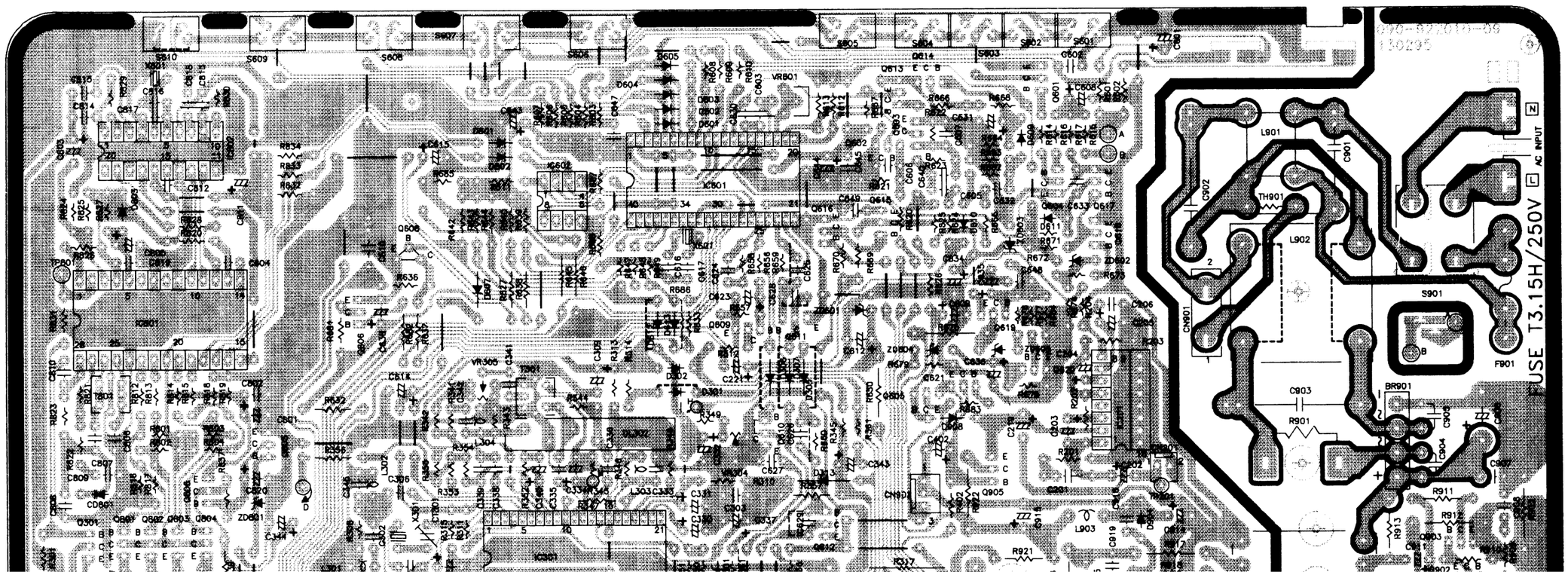
■ SEMICONDUCTOR SHAPES

	LA7910		CF72306		TMS73C47		2SA1015 2SC388A 2SC1815		ST93C46A
	LA7830		HCF4066		2SD1555 2SD1545		TA8701AN		BSX20
	AN5601K		CF70095				TDA1904		2SD400F 2SC2482

■ PATTERN DIAGRAM (RECEIVE PWB)

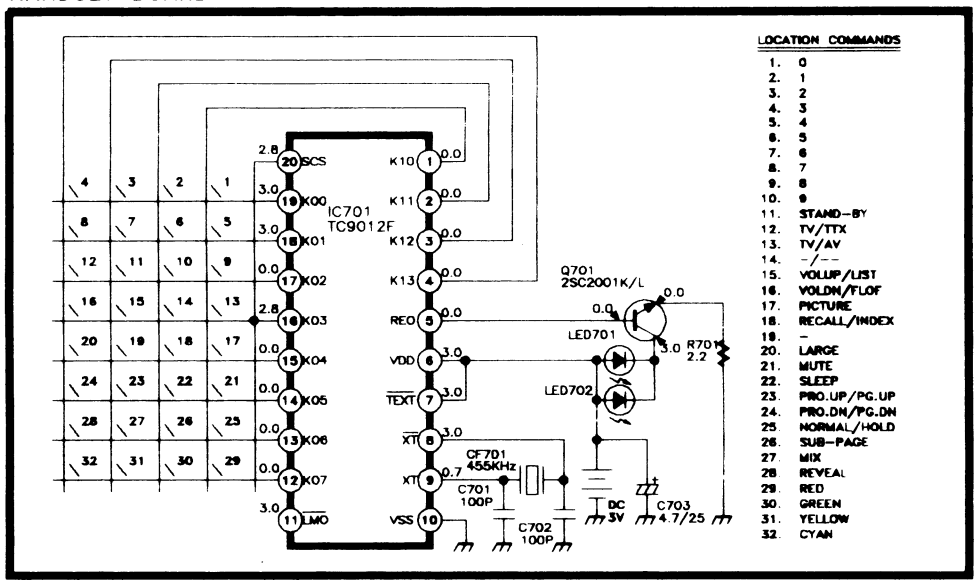


■ PATTERN DIAGRAM (MAIN PWB)

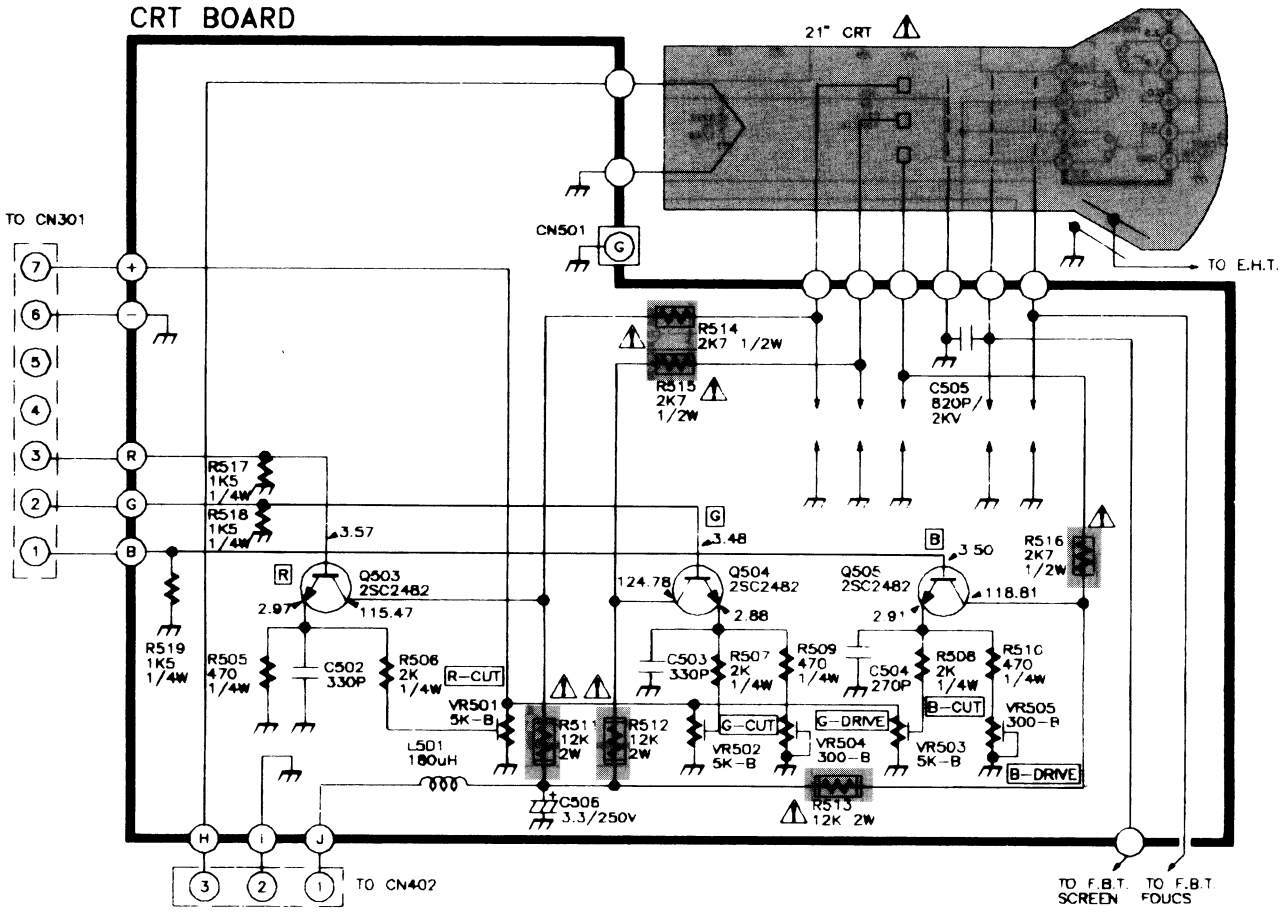


■ CIRCUIT DIAGRAM (CRT & HANDSET)

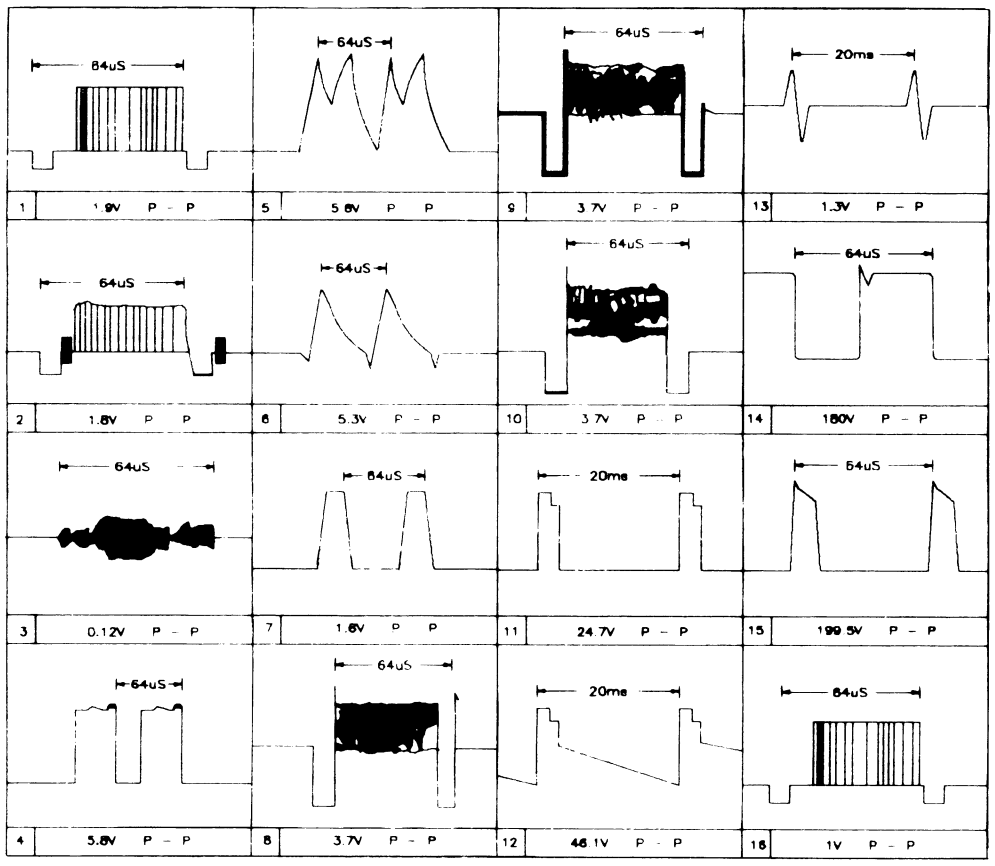
HANDSET BOARD



CRT BOARD



WAVEFORM



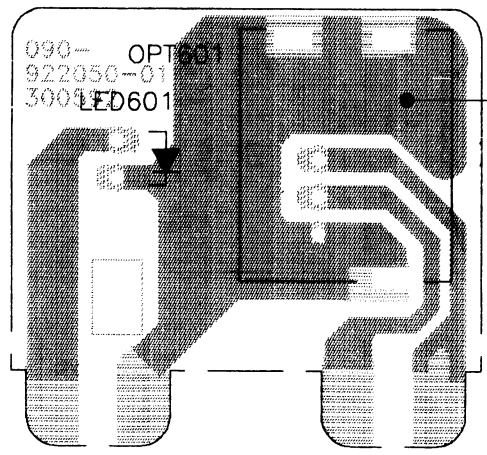
NOTE:

(1) ALL CAPACITORS ARE IN uF UNLESS OTHERWISE NOTED. ALL CAPACITORS ARE 50wv UNLESS OTHERWISE NOTED
(2) CAPACITOR NOT SPECIFICALLY DESIGNATED ARE CERAMIC CAPACITORS.
(3) ALL RESISTORS ARE IN OHM 1/16 WATT UNLESS OTHERWISE NOTED.
(4) RESISTOR NOT SPECIFICALLY DESIGNATED ARE CARBON FILM RESISTORS.
(5) DC VOLTAGE ARE MEASURED FROM POINTS INDICATED TO THE CIRCUIT GROUND WITH A DIGITAL MULTIMETER TEST.
(6) WAVEFORMS ARE TAKEN WITH SETTING CONTROLS TO A NORMAL CONDITIONS (COLOR PHILIPS PATTEN)
(7) THIS CIRCUIT DIAGRAM IS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.
(8) ⚠ SAFETY CRITICAL DEVICE

CIRCUIT SYMBOLS		
RESISTOR	**CAPACITOR**	
NONFLAMMBLE	ELECTROLYIC	(PP) POLYPROPYLENE
FUSEBLE	BI-POLAR ELECTROLYIC	(M) MYLAR
CEMENT	(T) TANTALUM	
METAL OXIDE	(MP) METALLIZED POLYESTER	
THERMISTOR	(P) POLYESTER FILM	

■ PATTERN DIAGRAM

■ PATTERN DIAGRAM (RECEIVE PW



■ PATTERN DIAGRAM (MAIN PWE